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# The Birth of a New Industry

Propagation of  
**WALNUT TREES**  
for  
**TIMBER and NUTS**

JOSEPH J. KELSEY,

fr.

CLINTON, CONN , U. S. A.

# THE BURBANK BLACK WALNUT TREE

A New Timber Tree for Both Beauty and Profit.

The Most Rapidly Growing Hardwood Timber Tree Known.

PRODUCED BY LUTHER BURBANK, SANTA ROSA, CAL., U. S. A.



THE PARENT ROYAL

## THE BURBANK ORIGINAL ROYAL WALNUT TREE

Twenty-two years of age. Ninety-six feet in height, with a spread of sixty-four feet of branches and a girth of nine feet, three inches, at six feet above the ground and the same at twelve feet. This tree is located at Mr. Burbank's Experimental Farms at Santa Rosa, California. It is a cross between *Juglans nigra* and *Juglans californica*.

# THE ROYAL WALNUT

By Luther Burbank

**D**URING the years from 1878 to 1885 I was experimenting extensively with our native nut trees and the Black Walnut of the Eastern States (*Juglans Nigra*) our native Black Walnut (*j. Californica*), the Texas Black Walnut (*j. Rupestris*), and the Asian Walnuts (*j. Manschurica*) (*j. Sieboldi*); also the South American Black Walnut (*j. Nigra* var.), the Butternut (*j. Cinerea*), and a dozen or more other species.

The result of a cross of a rapid growing Eastern Black Walnut and our Northern California, handsome, rapid growing Black Walnut, produced the variety now known everywhere as the "Royal", which will outgrow any other known Walnut tree on earth, whether produced by nature or by the skill of man. The "Royal" has come to be known not only as the best of all walnuts for timber production, but also from its unequalled vigor as a stock on which to graft all the best soft shell walnuts of commerce; it being found by general experience that these trees grafted on the "Royal" root make a better growth, bore more and larger nuts of better quality.

But above all, the value of the "Royal" is for timber, which it will produce at about one-eighth the expense of the ordinary Black Walnut timber and in some cases in less than one-eighth the time. Do these astounding results mean anything? A tree that will produce the most beautiful and most costly of all our American woods with a speed almost or quite equaling the eucalyptus means simply that it would now be a foolish waste of time and labor to plant timber groves of any other kind, especially when it is well known that old Black Walnut fences, stumps, and the inside finish of old houses are now eagerly sought for making walnut veneers, being even now too expensive to use solid as formerly before the whole American supply was exhausted.

The wood of the "Royal" often shows an annual growth of nearly one inch all around the tree each season, while the bark is thinner than that of the ordinary Black Walnut.

When I first announced this rapid growing walnut, most lumber men and those who had used the common Black Walnut in the manufacture of furniture were very doubtful; some of them even very sure that it

would prove to be softer than the Eastern Walnut, which they were then using. Therefore, I cut a large branch from my original enormous tree and subjected pieces of the timber to several New York and Chicago piano and furniture makers, all of whom pronounced it heavier, harder, closer grained, and of a finer, silkier texture and in all respects superior to the common Black Walnut. This could, of course, leave no doubt of its superior quality for every purpose for which Black Walnut is used.

This really wonderfully new timber and surpassingly beautiful shade tree probably cannot be profitably grown where the thermometer falls much lower than twenty or thirty degrees below zero, as with such a winter temperature the tips are frozen back occasionally, which checks the trees badly if too often repeated. The trees however, live in Eastern Canada, but thrive with unexampled vigor on any deep alluvial soil throughout most the United States.

The value of the "Royal" as a shade and ornamental tree with its grace, beauty, and towering proportions is well shown by the photograph of one of the original trees which now, at twenty-two years of age, is ninety-six feet in height with a spread of sixty-six feet of branches and a girth of nine feet three inches six feet above the ground and the same at twelve feet. If any other nut tree of the same age, of equal size and equal beauty has been seen, it has never yet been mentioned. This "Royal" tree also produces an enormous quantity of very large Black Walnuts, of much finer quality than other Black Walnuts.

The first "Royal" Walnut ever produced by the skill of man was produced on my own grounds and was first named, first described and first introduced by myself. If you wish to start right it is well to go to the fountain head by purchasing trees or nuts for a grove DIRECT FROM THE ORIGINATOR. It saves trouble later, as the originator of a new tree or plant or product of any kind must feel an interest in its success which is not often shared by others who have something to offer "just as good as Burbank's".

Let it be remembered that although the facts stated above are correct in every par-

ticular as nearly as it is possible to state facts, yet I do not recommend everybody to plant "Royals" for timber. Only those who can afford to wait for ten or twenty years, great as the profits may be, should invest in this attractive enterprise, so well suited to those who have land on which this permanent and sure investment will yield great returns with so little trouble and labor. But all may plant a few trees for beauty and the enhancement in value which grand trees bring to any piece of land.

The largest and most frequent orders for the "Royal" Walnut come from the very States where Black Walnut used to grow and where now a good old Black Walnut tree will sell at from one hundred to six hundred dollars or eight hundred dollars and where good Black Walnut lumber brings as high as two hundred dollars per thousand feet. The "Royal" is especially adapted to reforestation, road-side planting, and for general shade-tree purposes. In one case a request was received for ten million trees—one million a year for ten years. As there are not enough of the "Royal" Walnuts in the world to supply such a request, it was, of course, reluctantly refused, though the original "Royal" tree always bears great crops of nuts. We have counted the crops this season and find that there are seventeen thousand one hundred and sixty nuts and there are a few still on the tree, in all amounting to a little over forty-five bushels as they fall in the husk.

A Western farmer sold a stranger a Black Walnut tree which was growing in his pasture for \$25, supposing he had made a good bargain. The stranger sold the same tree for \$600.

The first thought that comes to one when they hear about this fast growing Black Walnut tree is that it must be softer than the common Black Walnut. We have practical proof that it is not, as Mr. Burbank sent a large branch of the tree to the lumber men who pronounced it superior in all respects to the common Black Walnut.

Theoretically this should be true as shown by the following article from the Hardwood Record by George B. Sudworth and Clayton D. Mell, Dendrologist of the Forest Service:

I. Gross characteristics of the *Juglans nigra* are white sapwood, heartwood chocolate brown darkens with age. It is hard, tough, strong rather coarse grained, easily worked, takes high polish, is very durable in contact with

the soil and is seldom attacked by borers. It shrinks very little in seasoning but unless carefully dried it warps and checks. The diameter of trees vary from twelve to thirty inches and occasionally reach from four to six feet.

II. Gross characteristics of *Juglans californica*, white sapwood, quite thick heartwood, dark brown with bluish tinge and it becomes black when exposed to light. It is hard, tough, strong, very fine grained and somewhat cross-grained, splitting with difficulty but is easily worked and takes a high finish and polish. Checks very little in seasoning but warps unless carefully handled. Its durability in soil is as great as that of *Juglans nigra*. Diameter of trees fifteen to twenty inches, forty to sixty feet high.

If you will study carefully the gross characteristics of the parents of the "Royal" you will readily see why the "Royal" is superior in all respects to the common Black Walnut.

You may say that in a fast growing tree the timber will be weaker. Practically we know that this is not so. In many contracts where a strong timber is desired the specifications called for second growth hickory. Second growth hickory grows more than twice as fast as first growth.

The following is from the Mechanical Properties of Wood by Samuel J. Record of Yale Forestry School:

"In the case of the ring porous hardwoods there seems to exist a pretty definite relation between the rate of growth of timber and its properties. This may be briefly summed up in the statement that the more rapid the growth or the wider the rings of growth, the heavier, harder, stronger, and stiffer the wood.

"Wide ringed wood is often called second growth because of the growth of the young timber in open stands after the old trees have been removed is more rapid than in trees in the forest and in the manufacture of articles where strength is an important consideration, such second growth hardwood material is preferred."

In fast growing trees the tree grows all summer and the fiber of the late wood is much stronger than those of the early wood. In slow growing trees there is hardly any late wood.

Will the "Royal" Walnut stand cold weather? In the winter of 1917-18 for over three weeks the thermometer hung around 17 degrees below zero and out of 300 "Royal" Walnut trees we never lost one. Many peach, apple and pear trees were winter killed but all the Walnut and Pecan

trees came through and made a good growth the following summer.

The Walnut, as Mr. Burbank says, is one of our best ornamental and shade trees; grass will grow under them all summer, while under most maples and other shade trees nothing will grow. Another good fea-

ture of the Walnut as an ornamental: you do not have to rake up large quantities of leaves each fall, as leaves of the Walnut disintegrate very rapidly and keep the lawn under it well fertilized. Then the nuts gathered each fall makes the Walnut tree valuable as well as ornamental.

#### THE VALUE OF THE ROYAL FOR NUTS

The following is from the American Nut Journal, January, 1919:

"Ten lbs of kernels from a bushel of Black Walnuts and sold @ eighty cents per lb. That is the record of one Black Walnut grove. At eight dollars per bushel the crops from an acre or two of Black Walnut trees ought to be an inducement to those who have the land or can get it."

The parent Royal bore over 45 bushels of walnuts in one year. Let's call it four dollars a bushel instead of eight dollars, then this tree would have brought in that season one hundred and eighty dollars.

Is there a market for the nuts? The following is from the American Nut Journal, January, 1919:

"The increasing recognition of the value of the nut is shown by the fact that importations of nuts and nut products in the fiscal year 1917 were valued at nearly thirty-three millions of dollars ranking fifth in value among food importations and having increased from a valuation of about six million dollars in 1905."

The following article from the U. S. Department of Agriculture, Forest Service Circular 88 issued August 9th, 1909, subject, Black Walnut:

More men are planting trees with a clearer vision, large wealth is finding services that look to the long future and the common good.

It is a well proven fact that the trunk governs the root or as Mr. Burbank says, the graft governs the root. Now if we have one fast growing tree we can convert a thousand and slow growing trees into fast growing ones by simply grafting or budding the slow grower by a graft or a bud from the fast grower.

Budding and grafting walnut trees to-day can be done successfully by anyone who will study the proposition carefully for a few hours.

"In open form it grows like Oak, Chestnut, etc. It stands and grows like White Birch, tall and slender. On Mountain slopes of the Carolinas it reaches a height of one hundred and ten feet and a diameter of five to six feet. Average matured forest tree seventy to ninety feet high and thirty to forty-five inches in diameter. In good soil the rate of growth is fairly rapid and is continued up to mature age. In best situations planted trees grow one inch a year."

Thus we see if a Walnut tree starts out to grow four feet a year it will average four feet a year until it reaches maturity.

From circular 88: "At present (1909) about one hundred and fifteen dollars per thousand feet B. M. is paid. Thirty million feet of walnut were sawed in this country during the year 1905."

The value of Black Walnut timber today is around one hundred and fifty to two hundred dollars a thousand feet B. M. The Royal tree at twenty years of age will average over a thousand feet of lumber. Since 1914 millions and millions of feet of walnut must have been sawed for gun stocks and airplane propellers.

The Persian, commonly called the English walnut, was named "Nut of the Gods" by the Romans nineteen hundred years ago and by them was distributed throughout southern Europe, where descendants of these original trees are now standing lasting monuments to the men who conquered these countries.

Cultivation of the English walnut is a rapidly growing industry in the United States. The reason for this is readily traced to the fact that this country is producing only about one-half enough of these nuts to supply the demand. The famous orchards of France and Italy fell before the ravages of the Hun, and we can no longer look to this source for our supply.

## THE NEW ENGLAND BLACK WALNUT

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When our ancestors first settled in New England this tree was quite common and in the old New England houses you will still find beds, bureaus and other furniture which they made of this beautiful and lasting wood.

The New England Black Walnut is a hardy, quick growing tree and is superior in every way to the Black Walnut of the Middle West. Our native tree is nearly extinct. Only a few of these valuable trees are now left in New England. Cutting without replanting is responsible for this condition.

One may say that Black Walnuts as a whole are not quick growing trees and it is only in one or two isolated cases that they grow fast. The following pictures show a nursery of our common Black Walnut. Here the trees are planted about eighteen inches apart and you will see that during the second year many of them grew five feet or more. One tree in this nursery measured by Mr. C. A. Reed of the U. S. Department of Agriculture, grew 58 inches by September and grew 2 or 3 inches more after the measurement was taken.



Aug. 30, 1916, Nursery of J. J. Kelsey, Clinton, Conn. One year old



Sept. 17, 1917 Nursery of J. J. Kelsey, Clinton, Conn. Two years old



**Number 1**  
Native Black Walnut, one year old



**Number 2**  
Same Tree as shown in picture Number 1  
One year later



Parent Native Black Walnut 8 years old.  
Pictures Number 1 and 2 are a seedling  
from this tree



Three year old Royal Walnut

### THE PARADOX WALNUT

The Paradox Walnut is a cross between the Black Walnut and the English Walnut. This tree is not as fast a grower as the Black Walnut but is much faster than the English Walnut. The value of the nut is greater than that of the Black Walnut but not as great as the English. The timber value of this tree is an unknown quantity at present but theoretically it should be more valuable than either of the parents.

The nut of this tree in appearance and quality far surpasses the English walnuts but the shell is thicker than that of the English. We have growing a young paradox tree which we received from Luther Burbank in November or December 1918. Set out in the spring of 1919.

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### THE MIRACLE CHESTNUT

This tree is another Burbank production. The most wonderful of all known chestnuts. Bears heavily the first year and ever afterwards. Superior very large sweet chestnuts.



A Miracle Chestnut tree 3 months after planting. Notice chestnut burr at top

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### SOME OF THE BY-PRODUCTS OF A WALNUT ORCHARD

#### Walnuts for Fast Dyes

A subscriber of the St. Paul, Minn., News, formerly a resident of Holland, says he knows the German secret of making fast dyes. The hulls of green walnuts and hazel nuts are used to obtain the fast effect, he says:

"That is why the Germans import as many of these green nuts as they can get," he says. "They are used for food as well as for the dyeing process. When I was a little boy near Amsterdam a German lad came to our house one night. He had been an apprentice at a dye factory and had run away. He told us the hulls of the walnuts were used at the plant to obtain fast colors." It was pointed out that many Germans in this country use walnut hulls to dye woolens and other cloth.

#### Home Brewed Dyes

Black Walnut bark and ripe black walnut hulls may be used together, their color gamut is from tobacco to seal brown.

Walnut roots chipped up and boiled half a day yield a fine yellowish brown, quite unlike that furnished by the bark and hulls. White walnut bark especially if mixed with

unripe nuts thoroughly cracked gives a hard, clear color brown with tones of red.

Black walnuts cracked and mixed hulls and all with their own bulk of sumach berries dye an excellent fast black. The Royal and Paradox will add other colors to this list of dyes.

#### Black Walnut Stain

By replacing the burnt umber used in staining gun stocks, furniture, etc., with residue of boiled black walnuts a much better finish is acquired as burnt umber being a mineral it clouds the grain whereas the black walnut stain brings the grain out without the clouding effect.

#### Fertilizer and Fuel

The hulls of the walnut are a natural fertilizer and this item when one has several hundred trees in bearing will run up to a nice figure. Fertilizer is in demand everywhere.

The shells of the walnuts after the meats have been extracted make a very fine substitute for coal and of course the ashes from such a fire are valuable as a fertilizer. You see there is no waste from a walnut tree.

## SUPERIORITY OF NUTS

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The nuts do not rot like peaches, apples and other fruit. You harvest all winter and sell the product when ready. Nuts can be cracked in winter when other farm work is done. Can fruit trees compare with nut trees?

1st—Lumber. What fruit trees produce such valuable lumber?

2nd—Crops. There never was a total nut crop failure. How about fruit trees?

3rd—Fruits must be picked when ripe; nuts anytime after they are ripe.

4th—By-Products. Dyes, stain, fertilizers, coal substitute, etc.

5th—Life of a fruit orchard is not one-half as long as that of a nut. Walnut orchards bear for over a hundred years. Peach orchards last five to ten years.

6th—Walnut orchards are not infested with disease and worms as are fruit orchards.

7th—Stock can be pastured in walnut orchards the full season as they will not eat nuts as they will apples, etc. In peach orchards the trees are headed too low to permit pasturage.

From "Advent of Nuts Into the Nation's List of Staple Foods," by Dr. J. H. Kellogg, Battle Creek, Michigan—

"In these days when a condition of food shortage exists in the greater part of the

civilized world, any question which concerns a nation's food supply is of public interest.

"In face of vanishing meat supplies it is most comforting to know that meats of all sorts may be safely replaced by nuts not only without loss, but with a decided gain. Nuts have several advantages over flesh foods which are well worth considering.

"1. Nuts are free from waste products, uric acid, carmine and other tissue wastes.

2. Nuts are aseptic, free from putrefactive bacteria, and do not readily undergo decay either in the body or outside of it. Meats, on the other hand, are practically always in an advanced stage of putrefaction, as found in the meat markets. Ordinary meats contain from three million to ten times that number of bacteria per ounce, and such meats as Hamburger steak often contain more than a billion putrefactive organs to the ounce. Nuts are clean and sweet.

"3. Nuts are free from trichinae, tape-worm and other parasites as well as the infections due to specific disease. Nuts are in good health when gathered and remain so until eaten.

"One acre of walnut trees will produce every year food equal to 14,000 lbs. red bass (a ship load); 3000 lbs. beef (five steers); 7,500 lbs. chicken broilers; 15,000 lbs. lobsters; 10,000 lbs. oysters; 60,000 eggs (5,000 dozen); 4,000 qts of milk; a ton of mutton (13 sheep); 250,000 frogs.

"Every man who cuts down a timber tree should be required to plant a nut tree. A nut tree has a double value. It produces valuable timber and yields every year a rich harvest of food while it is growing."

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### THE LIBERTY TREE

From "American Museum Journal", May 1918—

"The Black Walnut is now being called the 'Liberty Tree' and all patriotic farmers who possess such trees have been urged to offer them to the United States Government.

"Builders of aircraft have learned that there is no wood so suitable for propellers, and it has long been the wood employed in the manufacture of gunstocks."

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### Who Plants a Tree

Give fools their gold and knaves their power

Let fortune bubbles rise and fall  
Who sows a field or trains a flower  
Or plants a tree is more than all.

—John Greenleaf Whittier.

### The Start

We have now over a thousand nut trees transplanted and they are from three to thirty feet tall. Ten years from now at the smallest valuation possible to put on them they will be worth twenty dollars apiece. This will make the property worth over twenty thousand dollars and we have just started. We can buy fine old orchard land here for about twenty to thirty dollars an acre. After the third year the trees require practically no attention and at the end of ten years an acre is worth over two thousand dollars. Can you think of a safer, surer or a better way to invest money? At the end of twenty years it will be worth eight times as much as at the end of ten years. It's a great deal better than a 20-year endowment policy.

## THE BEARING AGE

One reason people are so unwilling to plant walnut trees is the belief that it takes so long before they begin to bear. Nearly every nut tree will bear as young as a fruit tree and what fruit tree will bear the same year that you plant the seed?

The Miracle Chestnut often bears the same year that the seed is planted. The Japan Walnut will bear the third or fourth year if planted in good soil. The black walnut often bears at five years. The English walnut generally bears at seven or eight years. Do fruit trees do any better than this?

Don't believe the man who says it can't be done. You can do it yourself. Add beauty, usefulness and value to your home by planting a few of these valuable trees.

Everybody can help lower the high cost of living by setting out a few of these trees. Don't put off ordering them until tomorrow; do it now.

If you have no land and wish to invest in a few trees write me and I will send you my proposition on this matter.

## PRICE LIST

		Each
Native Black Walnuts	2 to 3 ft.....	\$ .50
" " "	3 to 5 ft.....	1.00
" " "	5 to 7 ft.....	2.00
" " "	7 to 10 ft.....	3.00
Royal Walnuts	2 to 3 ft.....	1.00
" "	3 to 5 ft.....	2.00
Japan "	2 to 3 ft.....	1.00
" "	3 to 5 ft.....	2.00
Paradox Walnuts	2 to 3 ft.....	8.00
English "	2 to 3 ft.....	3.00
Miracle Chestnuts	2 to 3 ft.....	1.00
" "	3 to 4 ft.....	1.50
Pecans	2 to 3 ft.....	1.00

**J. J. KELSEY,**  
Clinton, Conn.



